

XN1872

Silicon N-channel • Enhancement MOS FET

For switching

■ Features

- Two elements incorporated into one package.
(Source-coupled FETs)
- Reduction of the mounting area and assembly cost by one half.

■ Basic Part Number of Element

- 2SK621 × 2 elements

■ Absolute Maximum Ratings (Ta=25°C)

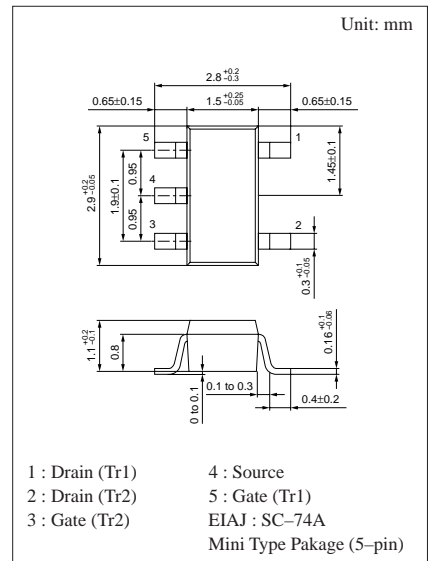
Parameter		Symbol	Ratings	Unit
Rating of element	Drain to source voltage	V_{DSS}	50	V
	Gate to source voltage	V_{GSO}	8	V
	Drain current	I_D	100	mA
		I_{DM}	200	mA
Overall	Total power dissipation	P_T	300	mW
	Channel temperature	T_{ch}	150	°C
	Storage temperature	T_{stg}	-55 to +150	°C

■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to source voltage	V_{DSS}	$I_D = 100\mu A, V_{GS} = 0$	50			V
Drain current	I_{DSS}	$V_{DS} = 10V, V_{GS} = 0$			10	μA
Gate cutoff current	I_{GSS}	$V_{GS} = 8V, V_{DS} = 0$	40		80	μA
Gate threshold voltage	V_{th}	$I_D = 100\mu A, V_{DS} = V_{GS}$	1.5		3.5	V
Drain resistance	$R_{DS(on)}$	$I_D = 20mA, V_{GS} = 5V$			50	Ω
Forward transfer admittance	$ Y_{fs} $	$I_D = 20mA, V_{DS} = 5V, f = 1kHz$	20	30		mS
Output voltage high level	V_{OH}	$V_{DS} = 5V, V_{GS} = 1V, R_L = 200\Omega$	4.5			V
Output voltage low level	V_{OL}	$V_{DS} = 5V, V_{GS} = 5V, R_L = 200\Omega$			1.0	V
Input resistance	$R_1 + R_2^{*1}$		100		200	k Ω
Turn-on time	t_{on}^{*2}	$V_{DD} = 5V, V_{GS} = 0 \text{ to } 5V, R_L = 200\Omega$			1.0	μs
Turn-off time	t_{off}^{*2}	$V_{DD} = 5V, V_{GS} = 5 \text{ to } 0V, R_L = 200\Omega$			1.0	μs
Common source short-circuit input capacitance	C_{iss}	$V_{DS} = 5V, V_{GS} = 0, f = 1MHz$		9	15	pF

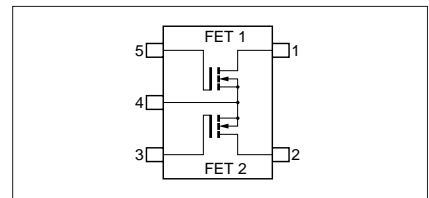
*1 Pulse measurement

*2 Resistance ratio $R_1/R_2 = 1/50$

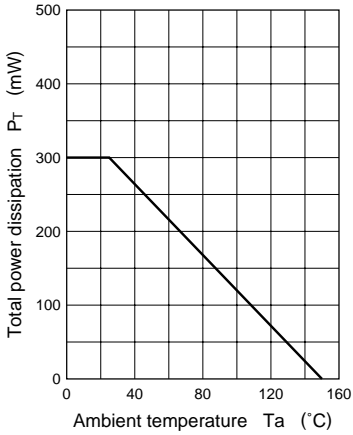


Marking Symbol: 5U

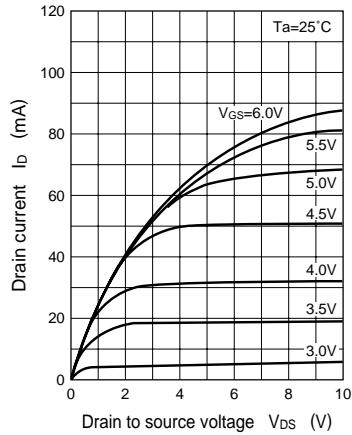
Internal Connection



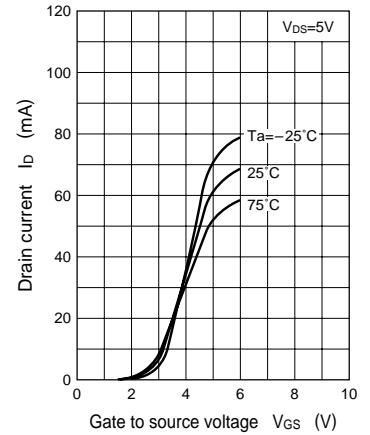
$P_T - T_a$



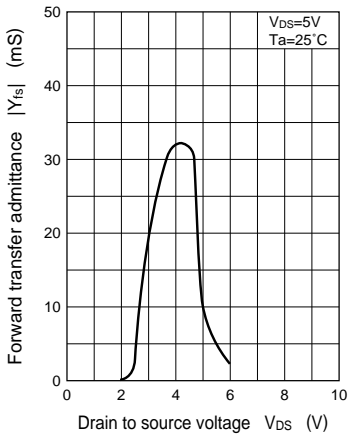
$I_D - V_{DS}$



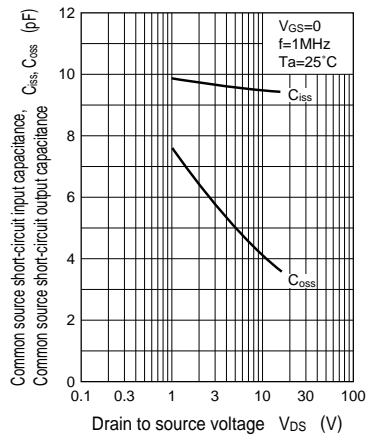
$I_D - V_{GS}$



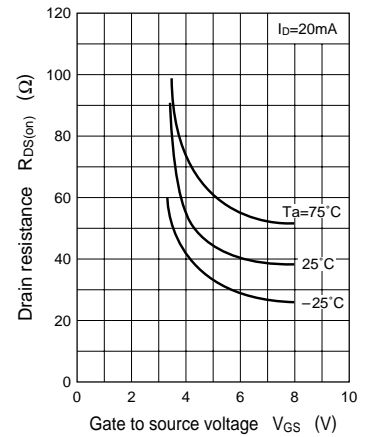
$|Y_{fs}| - V_{DS}$



$C_{iss}, C_{oss} - V_{DS}$



$R_{DS(ON)} - V_{GS}$



$V_{IN} - I_O$

